

Practitioner's Docket No. 3293.0000

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Here application of: Ruggero M. Santilli)

Application No.: 09/826,183)

Group No.: 1714

Filed: 04/04/2001)

Examiner: C. D. Toomer

For: NEW CHEMICAL SPECIES OF CLUSTERS)

DECLARATION UNDER 37 CFR 1.132

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

I, Stein E. Johansen, declare and state:

1. I am a scientific professional who has reviewed the works of Dr. Santilli as it related to the principles embodied in the new chemical species of clusters.
2. My curriculum vitae is attached herein.
3. I have read the Official Action mailed February 13, 2006, and the reasons for rejection noted by the Examiner. I note that the Examiner alleges essentially that the chemical species invented by Dr. Santilli is not accepted by the scientific community, as contrary to chemistry as is known to date. In order to provide evidence of acceptability by the scientific community, I provide the following comments concerning my independent observation of the invention claimed by Dr. Santilli and/or my understanding of the new species of clusters.
4. I am a cross-disciplinary scientist with my main employment as an associate Professor at Norwegian University of Science and Technology, Department of Social Anthropology, Trondheim, Norway. My main field in anthropology is the study of information flows connected to cutting-edge science and technology in the global knowledge ecology. I am not aware of any other scientist in the world having this as his/her specialist field.

Also, I have a post-PhD level thesis in philosophy of economics, and have published books in philosophy of science and informatics. History and theory of science was a key block in my PhD education in philosophy. Hence, I am quite knowledgeable of general mechanisms involved in scientific revolutions and the rise and fall of scientific paradigms. I have carefully studied the

basics of the extensions to hadronic mechanics and chemistry, with Santilli as the foremost scientist world-wide making these extensions possible, the extension of mathematics making this possible, the experimental evidence for hadronic chemistry in the published scientific literature, and the new hadronic technologies emerging from these over-all scientific progress. Further, I have written an introductory book in Norwegian to these overall scientific advances.

After an academic career in Italy, MIT and Harvard University, Santilli formed Institute for Basic Research where he is president and professor in theoretical physics. Santilli is also honorary professor at Ukraine Academy of Science. Santilli has published extensively in mathematics, theoretical and experimental physics, superconductivity, chemistry, biology, and astrophysics – about 20 books (some published by Springer and Kluwer) and 230 articles (mostly in prestigious journals; among them: # PHYS. REVIEW # INTERN. J. PHYSICS and MODERN PHYS. LETTERS # FOUND. PHYS. and FOUND. PHYS. LETTERS # COMMUN. THEOR. PHYS. # MIT-ANNALS OF PHYSICS # JINR - RAPID COMMUN # ACTA APPL. MATH. # IoP-JOURNAL OF PHYSICS # HYPERFINE # INTERN. J. QUANTUM CHEMISTRY # INTERN. J. HYDROGEN ENERGY # J. NEW ENERGY # ANNALES DE LA FONDATION L. DE BROGLIE # ADVANCES IN ALGEBRAS, #JOURNAL OF DYNAMICAL SYSTEMS AND GEOMETRIC THEORIES, # COMMUNICATIONS IN MATHEMATICAL AND THEORETICAL PHYSICS, # CHINESE J. OF SYSTEMS ENGINEERING.)

Santilli has edited or co-edited about 100 publications, and is the chief editor of three journals, among them *Hadronic Journal* initiated in 1978 together with Nobel lecturers Prigogine and Yang. Santilli was first nominated to the Nobel Price in physics in 1985, and in chemistry in 2000. In the preface to his book *Quantum Theory and the Schism of Physics* (1982) Karl Popper, the great philosopher of science, emphasized, as the only reference, the work of Ruggero Maria Santilli among the new generation of physicist; Santilli's "most fascinating arguments in support of the view that quantum mechanics should not (-) be regarded as valid in nuclear and hadronic mechanics (-) seem to me to augur a return to sanity: to that realism and objectivism for which Einstein stood, and which had been abandoned by those two very great physicists, Heisenberg and Bohr." (p. 13).

For Santilli's numerous other accomplishments, see www.i-b-r.org.

Judged from my competence in philosophy, theory and history of science, there is no doubt that the huge scientific building created by Santilli as the main man, counts among the foremost not only during last century, but in the history of science as a whole. Especially impressing is the WIDTH of this scientific revolution(s), including dramatic extensions and progress of entire disciplines as mathematics (three new classes of numbers), physics, chemistry, biology and – implicitly – philosophy.

The general pattern of scientific revolutions includes great resistance to ground-breaking theories, due to paradigmatic blockings as well as more trivial selfish interests connected to prestige and power inside and outside the scientific community. Hence, the ordinary state-of-the-art is a huge time-lag from such theories is created till they become accepted by most scientists. As an example, Einstein did not receive any Nobel price before 1921 (and not for relativity theory), and in spite of 1900 representing the year of birth for quantum physics, quantum physicists were not honoured by Nobel prices before much later (Planck 1918, Bohr 1922,

Heisenberg 1932 and Schroedinger 1933). Outstanding scientists as von Neumann and Bohm did NEVER receive any Nobel price.

In the global scientific ecology of today there are many factors contributing to INCREASE the time lag between huge scientific breakthroughs and adequate acknowledgement from most scientists.

The size and complexity of the total body of scientific knowledge has increased immensely. This makes the field a single scientist has specialist knowledge about correspondingly smaller and smaller compared with the total body of scientific knowledge. At least for one century, it has not been possible anymore for any mathematician to be skilled in all fields of mathematics. The same is the case today with regard to physics and chemistry. The vast majority of scientists is only highly skilled in small fragments of their discipline. Hence, they are not much competent to judge advanced in other fields. The exception is the few scientists that are working with fundamental problems and advances in a sub-discipline, a discipline as a whole or a cluster of disciplines. However, such advances will not receive much attention from other scientists before they reach a level of maturity where they are able to catalyze process also in a growing number of smaller fields. And even then such catalyzing may be difficult because it devaluates the established specialist knowledge in the field if new basic theories show way more potent than the old theories a distinguished scientist or scientific community has build their carriers and self-esteem on. Further, there is an attention economy where the carrier pay-off from dealing with other fields is small in most cases, and this being even more the case because such dealings become more and more demanding with regard to time and intellectual skills. Finally, in spite of a decreasing RELATIVE number of scientists working with basic questions and problems in their discipline, the ABSOLUTE number is much higher than one century ago. When Bohr discovered that a spin-equation needed the supposition of a bizarre, unknown particle (the neutrino) to be true, he could gather the foremost quantum physicists in the world to decide whether priority should be given to abstract symmetry laws or to the empirical level of observed elementary particles. Such a procedure is not possible anymore due to increasing scale, and also due to fragmentation of and competition between different scientific milieus working with basic questions from incompatible approaches and notions.

Also, there are some factors working in a different direction, such as the abstract possibility for quicker information flow with the modern communication technology, and the possibility for more immediate implementation of basic theoretical advances into high-tech and software. But, all in all, these factors tend to have less impact than the non-catalyzing ones. The global scientific knowledge ecology has much similarity to jungle ecology. In spite of the possibility for very quick pathways through the jungle, they remain hidden for most scientists, and the incitement and skills to seek for them is not high.

A notion of "THE scientific community" is nowadays a mythic construct which does not give much justice to the empirical situation, and hence not a proper descriptive category. Each discipline, for example physics, does not anymore constitute a unitary and coherent scientific community with a high degree of transparency, attention and information flow between the different segments of the field. In spite of such compartmentalisation, the discipline could be said

to be highly coherent if the specialists were working at different parts from a common understanding of the global scientific building as a whole. But when scientific revolutions, lifting the discipline or a cluster of disciplines by reconfiguring the theoretical basics, take place, as has been the case with the hadronic sciences, the over-all situation is NOT coherent anymore, and most specialists do NOT have knowledge about or pay attention to the basic revolutions, and do NOT have any adequate and up-to-date understanding of the global scientific net.

The strange situation with regard to superconductivity is a good example to illustrate the paradoxes involved in the complexification of the huge and with regard to the basic issues quite incoherent situation of the current global scientific net. Even in these years Nobel prizes is given to scientists not having knowledge about superconductivity being possible at much higher temperatures than old stream scientists think, including at organic temperatures in fluids, as well as in gases. The physicist Animalu worked out the foundation for hadronic superconductivity in the early 90's, and especially Santilli, but also other physicists, developed this theory further. Today, 12 years after Animalu's break-through article, most physicists in the world, including most specialists in superconductivity, still do not know this and has not acquired knowledge skills in the most advanced superconductivity theory. Also, there exist other scientific milieus in the world researching superconductivity at what we may term "extra high temperatures" (the main stream concept "high temperature superconductor" signifies quite low temperatures – much below zero – in comparison), without having knowledge about hadronic superconductivity having developed advanced mathematics, physics and chemistry to explain and study this. As an example, the first article researching superconductivity in biological systems, was published already in 1971; this on the other hand not being known by the hadronic scientists working out the more advanced theory.

In spite of the revolutionary character of hadronic mechanics and chemistry, it is already quite acknowledged by significant SEGMENTS of highly esteemed main stream scientists and journals. One example:

A summary of the achievements so far in hadronic mechanics and related sciences was presented in Santilli's article in the journal *Foundations of Physics* 33(9): 1373-1416 Sep. 2003: "Elements of iso-, geno-, hyper-mathematics for matter, their isoduals for antimatter, and their applications in physics, chemistry, and biology". The editorial board of the journal counts **eight Nobel Price winners in physics**. A version of the article (with some more mathematics) is available on this net address:

<http://www.i-b-r.org/docs/Iso-Geno-Hyper-paper.pdf>

The article presents 225 references to publications in hadronic science, mainly in mathematics and physics, but also 21 references to experimental verifications (no. 110-130), and the article includes a presentation of the discovery of magnecules as a new type of chemical species.

Another example is this Santilli publication: "The novel magnecular species of hydrogen and oxygen with increased specific weight and energy content" (*International Journal of Hydrogen Energy* 28(2): 177-196, Feb. 2003). This journal is broadly accepted as THE international journal for research in hydrogen energy.

In the database ISI Web of Knowledge / Web of Science intending to cover main stream high quality journals, Santilli is listed with 416 citations (compared to for example 401 for Stephen Hawking). With one single exception (a small letter in a minor issue, being answered in the same journal) ALL these citations are POSITIVE references.

Hence, the overall picture is that Santilli is highly referenced even in main/old stream journals, and with prominent publications in some of them, INCLUDING the discovery of the new chemical species and clusters named magnecules or electromagnecules. On the other hand, there has to my knowledge NEVER been published ANY article in ANY scientific journal, main stream or not, arguing AGAINST the discovery of the magnecules, the scientific theory predicting and explaining their attributes, or the technology being invented by Santilli to produce magnecules in adequate types and quantas; this in spite of the first publications of this discovery of magnecules dating back to 1998. During eight years, NO SCIENTIST in the world has published anything against the discovery of the magnecules. On the other hand, other scientists HAVE published articles BACKING and further DEVELOPING theories and experiments presupposing the existence of magnecules. To claim that “no assertions of such a population of clusters have been recognized or verified by the scientific community” is simply NOT TRUE. The most outstanding example is the publications by Ascar Aringazin and co-scientists in Kazakhstan and Russia.

Aringazin is D.Sc. and professor in physics, and the director for the Kazakhstan division of Institute for Basis Research (IBR) at Eurasian National University at Astana, and former the same at the IBR division at Karaganda State University where he also was chair of the department of theoretical physics. Aringazin has won nine prestigious honours and rewards from Kazakhstan and Russia, and one from the international Soros foundation. Faculty of Mathematics, University of Bielefeld, lists him among top 60 prominent “Man of the year 2005”, a reward to outstanding research and important contributions to society. In 2003-05 Aringazin was the principal investigator for the construction of the first hadronic reactor in Kazakhstan with a grant from the Science Foundation of the country. He has published 3 monographs and 42 refereed articles, many of them in prestigious journals, with much emphasis on research in hadronic mechanics and chemistry. At the International Hydrogen Energy Congress in Istanbul 2005 Aringazin was a member of the International Advisory Board.

With regard to the theory of hadronic superconductivity to explain the existence of magnecule clusters, the prominent Nigerian physicist Alexander Animalu deserves a special emphasis.

Animalu is professor in physics at University of Nigeria, Nsukka, and at the Nigerian division of IBR where he also is director. He is former director of the National Mathematical Centre in Abuja, former President of Nigerian Academy of Science, winner of Nigerian National Merit Award 2000, and recipient of International Order of Merit, Cambridge 2001. Animalu has a record as a highly distinguished energy scientist in Nigeria, and with an ecological concern. His PhD thesis is the most cited work by an African physicist ever. Animalu has published 22 books and 82 articles, many of them in prestigious journals. Inspired by Animalu, other Nigerian physicists have written PhD thesis in the field of hadronic superconductivity.

The value of scientific theory and experiment is judged by other scientists examining the theory and duplicating the experiments, not by scientists NOT interested in examining the theory and experiments. With regard to the current global situation it is very interesting, for a professional researcher of the scientific knowledge ecology to notice and to explain WHY so many scientists have stayed ignorant to the advances in hadronic science and technology, including the discovery of magnecules. Ignorance or incompetence has never been any scientific ARGUMENT. To judge science and experiment, one studies the PUBLISHED scientific literature, and if a scientist has objections in crucial issues, the scientist PUBLISHES the objections to contribute to the TRUTH in the issue. If a scientist is not able to get an objection published, it will have little information value or seriousness for other scientists. Judged from the ordinary criteria of science, the current situation is that the discovery of the magnecules, the theoretical advances to explain them, and the experimental verification of their existence, IS ESTABLISHED KNOWLEDGE in high quality scientific journals, also including some main stream, from efforts by world class scientists, and with NO SCIENTIFIC OBJECTION ever being published. Hence, the case is the assertion the NO-EXISTENCE of magnecular clusters, has ZERO PUBLISHED SUPPORT in the global scientific literature. There does NOT exist any controversy around this, simply because there does not EXIST any published scientific objection.

With regard to the necessary skills to produce magnecular clusters, it is an empirical fact that such skills have been unfolded with success by scientists and technicians with sufficient knowledge about hadronic technology in at least (to my knowledge) the nations of Italy and Kazakhstan, constructing hadronic reactors obviously being able to produce magnecules.

In addition to measurements by microscopic adequate apparatus, there also exist at least two quite SIMPLE MACROSCOPIC TESTS to decide whether magnecules have been successfully produced by a technical device or not:

- 1) If burning gas used to cut metal, cuts the metal twice as fast and half as narrow as possible with any known molecular gas, the gas has to be constituted of a new kind of chemical species, and is magnecular gas.
- 2) If a car runs much longer on the same volume gas and same pressure in a fuel tank (about 7,5 as long with magnecular hydrogen gas as with molecular hydrogen gas), the gas has to be constituted of a new kind of chemical species, and is magnecular gas.

WHY this is so is explained in the published scientific literature of hadronic mechanics and chemistry.

Hence, any doubt of such gas representing a new kind of chemical species, represents ignorance about published science and experience, and has no scientific value. And one does not need advanced scientific skills to understand that such simple macroscopic tests IMPLICATE the existence of a new chemical species.

In stead of loosely speculation about what MAY be the necessary skills to practice the invention, one first ought to pay attention to what ALREADY HAS BEEN SUCCESSFULLY DONE with EXISTING skills. Hence, such speculative objection against Santilli's patent is only due to lack of empirical knowledge.

The objection makes a claim that “even the most highly skilled physicists and chemists would agree that according to conventional theory, the instant invention cannot be produced”. There is no evidence presented on WHO these mystical “most highly skilled” scientists are, or on WHAT CRITERIA they are picked. When significant advances in basic science take place, what Kuhn termed ‘scientific revolutions’, there is paradigmatic competition and rivalry in the ecology of scientists. In philosophy and theory of science there exists a vast literature about such dynamics. To be able to select the most highly skilled scientists in such a situation, is a quite demanding task, requiring extraordinary and relevant competence. Obviously, the scientists highly involved in the competition, are not the best suited to such judgement, and especially not the ones defending the OLD paradigm. The best scientists to perform this meta-task would be scientists with the highest education to understand the GENERAL mechanisms involved in paradigmatic conflicts and scientific revolutions, with must knowledge about the SPECIAL mechanisms at the issue at hand, with SCIENTIFIC PUBLICATIONS about this, and with PERSONAL EXPERIENCE from paradigmatic conflicts regarding scientific innovation created by their own science. It is hard to see that there are many such scientists around in the world today, this author quite obviously even from formal criteria one of these few. This is my professional field, while a patent examiner obviously is not educated or competent to perform such a task. And MY CONCLUSION is that “the most highly skilled physicists and chemists” do NOT have any objection towards the production of magnecules, because the scientists working out the foundations of hadronic chemistry, which represents a dramatic EXTENSION and LIFTING of quantum chemistry, IS at the very forefront of today’s physics and chemistry, and establish the very CRITERION of what it is to be highly skilled or not. If one is not educated and skilled in hadronic physics and chemistry, one is NOT highly skilled at a world class level, just as pre-quantum or pre-relativity physicists not could count any longer as the most highly skilled scientists after these revolutions had emerged.

It is trivially correct that “according to conventional theory”, i.e. old stream quantum mechanics, “the instant invention cannot be produced”. Such a trivial statement does not require a highly skilled scientist, or much of a scientist at all. The invention presupposes the discovery of hadronic superconductivity and the so-called fifth contact force in the iso-electron, discoveries that were not possible from the simplified assumptions of quantum mechanics (such as point particles) not having advanced and adequate enough mathematics to their disposal. The de facto situation is that the old (“conventional”) theory is left behind at the forefront of science, and that a new and more advanced theory of physics and chemistry already is created and given crucial verification from experiments, including from magnecular technology, and that there exists no published scientific objection to these huge recent body of scientific knowledge. Quantum chemistry can only explain a sub-set of the phenomena possible to explain with hadronic chemistry, and the earlier and more restricted theory must be understood from the later and more advanced, not the other way around.

Original Signed declaration in mail to applicant

Trondheim, Norway, July 11, 2006
Prof., dr. philos. Stein E. Johansen

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CURRICULUM VITAE – STEIN E. JOHANSEN

Full name: Stein Erik Johansen

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Born: June 16, 1954 in Trondheim, Norway.

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Main employment and work address: Norwegian University of Science and Technology, Department of Social Anthropology, N-7491 Dragvoll, Norway.

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E-mail: stein.johansen@svt.ntnu.no

Highest degree:

1991 D.Sc. (classic Norwegian *dr. philos.*) in philosophy of economics, University of Bergen, Norway. D.Sc. thesis: *The Concept of Labour Time Content: A Theoretical Construction. A revisionist contribution to the foundation of form reflected capital theory.* (Published 1991 in Norwegian by Ariadne, Bergen, Norway. 638 p.)

Education:

1985 Ph.D. (Norwegian *magister*) in philosophy, University of Bergen, Norway.

University degrees in other disciplines: economics, anthropology, sociology, mathematical logic.

1973 Graduate Strinda gymnas, Trondheim, line of science and mathematics.

Scientific employment:

2002-> Full Professor, Division of physics, Institute for Basic Research, USA.

1995: University member (one of two) in think-tank at Statoil Research Centre exploring possibilities for strategic development of alternatives to oil energy.

1992-> Associate Professor in social anthropology, Norwegian University of Science and Technology (NTNU), Trondheim, Norway.

1991-1992: Associate Professor in sociology / university librarian, University of Oslo, Norway.

1988-1990: Research scholar in social anthropology, University of Trondheim, Norway.

1985-1987: Senior research assistant in social anthropology, University of Trondheim, Norway.

Fieldworks/research stays:

2001-> Tellus (information flows connected to the cutting-edge of science and technology in the global knowledge ecology).

1997: Santa Fe Institute, New Mexico, USA (complexity science)
Sint Eustatius, Netherland Antilles (memetic paradox operators)

1993: Seychelles (heterogeneity of belief system)

1985-1987: Trondheim, Norway (counterculture youth).

Books: (only first editions included)

- 2005 (ed.) *Anthropology and Ontology. Trondheim Occasional Papers in Social Anthropology*. Norwegian University of Science and Technology. (English and Norwegian; 170 p.)
- 2004 *ForWard. Mapping the hidden metabolism of subtle energy flow using capital logic as template*. Norwegian University of Science and Technology. (e-book in English; 116 p.)
- 2001 *Ferrari! Introduction to hadronic science*. Norwegian University of Science and Technology. (e-book in Norwegian; 178 p.)
- 2000 *Owl of Minerva. Some radical transcendental implications of the Bohmian turn in cutting-edge science*. Norwegian University of Science and Technology. (e-book in Norwegian; 146 p.)
- 1999 *Studies in Complexity and Anthropology* (Norwegian, yet to be offered for publication; 222 p.)
- 1998 *Economic-Philosophic Manuscripts* (Norwegian, yet to be offered for publication; 277 p.)
- 1994 (ed.) *Welcome to Virtual Reality*. University of Trondheim. (Norwegian; 252 p.)
- 1992 *Algorithms of Delight* (Norwegian, yet to be offered for publication; 211 p.)
- 1991 *Outline of Differential Epistemology*. University of Trondheim. (Norwegian, English translation in transit; 296 p.)
- 1991 *The Concept of Labour Time Content: A Theoretical Construction. A revisionist contribution to the foundation of form reflected capital theory*. (D.Sc. thesis.) Bergen: Ariadne. (Norwegian; 638 p.)
- 1988 *24 Hour People. On life beyond work among counterculture youth in Trondhjem*. University of Trondheim (Norwegian; 480 p.)
- 1987 *Quo vadis, sapiens...Prelude to a subject-oriented theory of culture*. Trondheim Occasional Papers in Social Anthropology. University of Trondheim. (Norwegian; 324 p.)
- 1985 *The Concept of Labour Time Content: A Theoretical Construction. Contribution to the foundation of form reflected capital theory and critique of Marx*. (Ph.D. thesis.) (Norwegian, not to be offered for publication; 270 p.)
- 1981 *Outline of the Non-Capital Economic System Derived from Labour Time Calculations*. (Norwegian, yet to be offered for publication in complete text; 225 p.)

Articles:

About 50 articles, mainly in anthropology, philosophy, economics and complexity science, but also including subjects of sociology, psychology, history, biology, informatics, technology, and hard science.

Latest publication:

2006 Initiation of 'Hadronic Philosophy'. The Philosophy Underlying Hadronic Mechanics and Chemistry. *Hadronic Journal* 29, 2006.

Abstract of latest article

In this paper we introduce, apparently for the first time, the novel 'hadronic philosophy', namely, the philosophy underlying the novel hadronic mechanics and chemistry, invented by R.M. Santilli and constructed to its present level by himself along with contributions from numerous other scientists around the world. It is stated that the emergence of hadronic mechanics, as well as the new hadronic sciences in general, follows the usual pattern of scientific revolutions, characterized by generalization, broadening and lifting from earlier theories. The hadronic sciences de facto have far-reaching ontological underpinnings as well as implications, consistent with the ontological framework established by David Bohm as well as the differential ontology worked out by the author. The direct universality of hadronic mechanics is consistent with a universal differential ontology, while Gödel's theorem(s) is argued not to hold ontological universality and truth. In differential ontology the universality of causality is implied in the very concept of information. This follows the intuition of Einstein, and the information flows corresponding to the new, non-trivial time categories established by hadronic biology represent scientifically legitimate causality operators. From the fundamental ontological attributes of the abstract category of "border", implied in the very category of information, it is argued that the Fibonacci algorithm is the elementary and universal form of nature's information processing. The generation of prime numbers is stated as glued to the unfolding of the Fibonacci sequence. Also, it is shown by a complementary weeding out approach that there is a pattern in the prime number sequence, as well as what pattern this is.

Already the article or its paper lecture has been quoted in published articles by Prof. Robert Pope (director of Science-Art Research Centre, Australia), Nigerian Prof. in physics Alexander Animalu (translated to Chinese), and – quite profoundly – in the following innovative article in biophysics authored by mathematical physicist Peter Rowlands at University of Liverpool and biotechnologist Vanessa Hill at Royal Holloway University of London:

P. Rowlands and V. Hill: Fundamental Mathematical Structures applied to Physics and Biology, in *Proceedings of the 27th annual meeting of the Alternative Natural Philosophy Association (ANPA)*, Cambridge 2005, ed. K. Bowden, 2006.

Lecturing:

University lectures from 1977.

Extensive practice in lecturing anthropology at all levels since 1985.

Organizer and main lecturer at Research Seminar of Department of Social Anthropology, University of Trondheim, 1992-1995.

Organizer and main lecturer for PhD-education at Department of Social Anthropology, University of Trondheim/NTNU, 1995-2004, including all education in theory of science.

Guest lectures at other Norwegian universities at Master level from 1979 on (philosophy, economics, anthropology).

Guest lecture at University of Newcastle, Australia, PhD-level (2005).

Guest lectures for Norwegian companies in economics, anthropology, complexity science and genetic algorithms.

Guest lectures for restricted scientific groups and different kind of organizations, the latter including Rotary and International Association of Transport Museums.

Talk at the opening of the Natural Science Building at Norwegian University of Science and Technology, May 31, 2000.

Conference papers:

International conferences in philosophy, economics, anthropology, technology and hard sciences.

Latest conference papers:

- *Outline of a Hadronic Philosophy*. University of Karlstad: 18. Workshop in Hadronic Mechanics, June 2005, Karlstad, Sweden.
- *Exposition of Double-Strain-Twisted Fibonacci Sequence as the Constitutional Logic for Evolution*. British Computer Society and Norwegian University of Science and Technology: Science and Philosophy Engaged, April 2006, Rindal, Norway.

Organizer of conferences:

Main organizer of about a dozen national conferences, including three recent around the work of foreign scientists being present (Trell 2004, Pales 2005, Purcell 2006).

Main organizer of one international conference (*Science and Philosophy Engaged 2006*), co-organizer of another (*18. Workshop in Hadronic Mechanics 2005*).

Network:

Extensive global network in cutting-edge science and technology, mainly in research institutions and university sector, but also including some finance and shipping.

Favourite physical exercise:

Tennis in summer, speed skating in winter, spin-cycling all year.

World Championships:

Only one: 1994: World Champion in *basse* (a curious micro-football game, constituting a prototypic Trondheim sport from turn of 19th century with restricted national and international diffusion).

Favourite music:

Beatles, Dylan, 77-punk; also Donovan, Cohen and Sigur Rós.

Purpose of life:

Contribute to release of creativity and life force in harmonic symphony to make the world a nice place. Considering the existence of some entropic counterforce being around, this translates to Strawberry Fields mating Valhalla.